Homework #405: Algebra I Pre-AP – Special Products and Polynomial Division

In Exercises 1–9, find the product using the Special Product Shortcuts.

 1.  2.  3. 

 4.  5.  6. 

 7.  8.  9. 

 10. Describe and correct the error in finding the product.

 a) b)





**Problems #11 - 14 will require more than one step each. Use special products wherever possible.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 11) | *x*  3*x*  8  2*x*  12 | 12) | *k*  5*k*  5*k*  1 |  |
| 13) |  *n*  7*n*  5 *n*  4*n*  4 | 14) |  3*x**x*  2*x*  4  *x* + 3 ) | 2 |

In Exercises 15 – 16, divide using Long Division.

 15. $\left(6x^{2}+17x+20\right)÷\left(3x+4\right)$ 16. $\left(x^{3}-3x^{2}+2x+15\right)÷\left(x+1\right)$

In Exercises 17 – 18, use Synthetic Division.

17. $\left(15x^{3}+17x+4\right)÷\left(x+4\right)$ 18. $\left(3x^{2}-10x+20\right)÷\left(x-2\right)$